

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **09331098 A**(43) Date of publication of application: **22.12.97**

(51) Int. Cl.

H01S 3/18(21) Application number: **08147245**(22) Date of filing: **10.06.96**(71) Applicant: **NEC CORP**(72) Inventor: **SAWANO HIROYUKI
HOTTA HITOSHI
KOBAYASHI KENICHI****(54) SEMICONDUCTOR LASER****(57) Abstract:**

PROBLEM TO BE SOLVED: To provide a low threshold value, a low driving current and long term reliability by doping saturable absorption layer having a band gap substantially equal to an active layer with oxygen in addition to an impurity for generating a conductivity type of a clad layer.

SOLUTION: A p-type saturable absorption layer 35 is provided between p-type AlGaInP clad layers 31 and 32, and doped with oxygen to generate a nonradiative recombination center, thereby dissipating minority carrier. Thus, saturation of minority carrier lifetime of the layer 35 is lowered, and hence saturable absorption amount necessary for a self-oscillation is reduced. In this manner, a semiconductor laser having a low threshold value, a low driving current and high reliability is obtained.

COPYRIGHT: (C)1997,JPO

